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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,848	01/25/2002	Kaj Borge Hansen	45900-000720/US	1575

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HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
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EXAMINER

NI, SUHAN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/057,848	HANSEN ET AL.	
	Examiner	Art Unit	
	Suhan Ni	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/01/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to the amendment filed 12/01/2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 28-38 and 43-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Gerlach et al. (U. S. Pat. - 1,934,184).

Regarding claim 28, Gerlach et al. disclose an electroacoustic transducer, comprising: a magnetic circuit (Fig. 1) of a magnetically conductive material with a pair of opposed surfaces defining a gap therebetween, the magnetic circuit comprising a magnet inducing a magnetic field in the gap, the magnet having a surface constituting one of the opposed surfaces; a substantially plane diaphragm (8); and a coil (6) having electrically conducting paths secured to the substantially plane diaphragm, the coil having portions of its paths situated in the gap, wherein the magnetically conductive material defines magnetic return paths between the pair of opposed surfaces, said magnetic return paths extending in a plane being substantially parallel to the substantially plane diaphragm as claimed.

Regarding claim 29, Gerlach et al. further disclose the electroacoustic transducer, wherein the magnetic circuit has two pairs of opposed surfaces defining first and second gaps (Fig. 1), wherein the coil has first and second gap portions of its paths situated in respective ones of the first and second gaps, and bridging portions (7) of paths interconnecting the first and

second gap portions of paths, the coil being secured to the substantially plane diaphragm at the bridging portions (Fig. 2).

Regarding claim 30, Gerlach et al. further disclose the electroacoustic transducer, wherein each pair of opposed surfaces are substantially plane surfaces being substantially parallel to each other (Fig. 1).

Regarding claims 31-34, Gerlach et al. further disclose the electroacoustic transducer, wherein the magnetic circuit comprises a body of magnetically soft material with two openings therein (Figs. 1 and 4) as claimed.

Regarding claims 35-36, Gerlach et al. further disclose the electroacoustic transducer, wherein the bridging portions define a bridging plane (Figs. 2-3) having a substantially flat surface for securing the coil to the substantially plane diaphragm, and wherein each of the gap portions comprises a plurality of electrically conducting segments being substantially parallel to the bridging plane as claimed.

Regarding claims 37-38, Gerlach et al. further disclose the electroacoustic transducer, wherein the coil (6) is formed by wound electrically conducting wire (15).

Regarding claim 43, Gerlach et al. disclose an electroacoustic transducer, comprising a magnetic circuit (Fig. 1) comprising a magnet inducing a magnetic field in a gap; a substantially plane diaphragm (Figs. 2-3) comprising electrically conductive portions; and a coil (6) secured to the substantially plane diaphragm, wherein the coil comprising electrically conducting path ends electrically connected to the electrically conductive portions of the substantially plane diaphragm, and the electrically conductive portions further having externally accessible portions for electrically terminating the transducer as claimed.

Regarding claims 44-45, Gerlach et al. further disclose the electroacoustic transducer, wherein the coil comprises bridging portions defining a bridging plane having a substantially flat surface for securing the coil to the diaphragm, and a gap portion outside the bridging plane, the gap portion comprising a plurality of electrically conducting segments being substantially parallel to the bridging plane.

Regarding claims 46-47, Gerlach et al. further disclose the electroacoustic transducer, wherein the coil (6) is formed by wounded electrically conducting wire (15) as claimed.

Regarding claims 48-50, Gerlach et al. further disclose the electroacoustic transducer, wherein the magnetic circuit has two pairs (Figs. 4-5) of opposed surfaces defining first and second gaps, wherein the coil has first and second gap portions of its paths situated in respective ones of the first and second gaps, and bridging portions (Fig. 3) of paths interconnecting the first and second gap portions of paths, the coil being secured to the diaphragm at the bridging portions as claimed.

Regarding claims 51-54, Gerlach et al. further disclose the electroacoustic transducer, wherein the magnetic circuit (Fig. 1) comprises a body of magnetically soft material with two openings therein as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 39-42 and 55-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerlach et al. (U. S. Pat. - 1,934,184).

Regarding claims 39-42 and 55-58, Gerlach et al. do not clearly teach a casing for the transducer as claimed. Since providing a casing for a acoustic transducer is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable housing for the transducer, in order to protect the transducer and make the transducer more durable.

Response to Amendment

4. Applicant's arguments dated 12/01/2004 have been fully considered, but they are not deemed to be persuasive.

Regarding claim 28, the cited reference (U. S. Pat. - 1,934,184) does clearly show an electroacoustic transducer, comprising: a magnetic circuit (Fig. 1) of a magnetically conductive material with a pair of opposed surfaces defining a gap therebetween (Fig. 3), the magnetic circuit comprising a magnet inducing a magnetic field in the gap, the magnet having a surface constituting one of the opposed surfaces; a substantially plane diaphragm (8); and a coil (6) having electrically conducting paths secured to the substantially plane diaphragm, the coil having portions of its paths situated in the gap, wherein the magnetically conductive material defines magnetic return paths between the pair of opposed surfaces, said magnetic return paths extending in a plane being substantially parallel to the substantially plane diaphragm as claimed.

On page 11, the applicants state: the prior art "do not extend 'substantially parallel' as claimed", the examiner respectfully disagrees with the applicant. The magnetic circuit (Fig. 1)

includes a flat top plate (2, made of magnetically conductive material) which forms and defines magnetic flux paths. Therefore, the paths are clearly parallel to the diaphragm.

Regarding claim 43, the cited reference (U. S. Pat. - 1,934,184) does clearly show an electroacoustic transducer, comprising a magnetic circuit (Fig. 1) comprising a magnet inducing a magnetic field in a gap; a substantially plane diaphragm (Figs. 2-3) comprising electrically conductive portions; and a coil (6) secured to the substantially plane diaphragm, wherein the coil comprising electrically conducting path ends electrically connected to the electrically conductive portions of the substantially plane diaphragm, and the electrically conductive portions further having externally accessible portions for electrically terminating the transducer as claimed.

The examiner apologizes for the typo of sign "23". But the examiner respectfully disagrees with the applicant. The coil (6, 14) of the loudspeaker is carrying a speech or audio frequency current from an external accessible source (page 2, lines 147-150), and one skilled in the art at would understand that a dynamic loudspeaker having a voice coil and magnetic circuitry as taught in the prior art, inherently comprises electrically conductive portions of the coil which further have externally accessible portions for electrically terminating the transducer as claimed. Such essential feature ensures the speaker to be operational properly.

Conclusion

5. **THIS ACTION IS MADE FINAL.** See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED

STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

6. Any response to this final action should be mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Or faxed to:

(703) 308-9051, (for formal communications; please mark "EXPEDITED PROCEDURE"), or

(703) 305-9508, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is **(571)-272-7505**, and the number for fax machine is **(703)-872-9306**. The examiner can normally be reached on Monday through Thursday from 9:00 am to 7:30 pm. If it is necessary, the examiner's supervisor, **Curtis Kuntz**, can be reached at **(571)-272-7499**.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (**PAIR**) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2643

9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600, or please see <http://www.uspto.gov/web/info/2600>.

April 28, 2005


SUHAN NI
PRIMARY EXAMINER